

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A device for managing measurement of parameters of end-to-end type data streams in a communication network composed of at least two domains coupled together, and each equipped with a measuring appliance to deliver local measurements representing parameter values of local end-to-end data streams, which said measuring appliances implement various measuring processes, the device comprising:

monitoring means for ordering constitution of a specific measurement configuration in each measuring appliance as a function of at least a corresponding measuring process of a respective measuring appliance and overall measurement specifications, and

calculation means for determining first data representative of the parameter values of overall end-to-end data streams from local measurements delivered by the said configured measuring appliances.

2. (previously presented): The device as in claim 1, wherein said monitoring means is arranged to order the constitution of the specific measurement configuration in each measuring appliance as a function of the corresponding measuring process, second data representing an arrangement of the respective associated domain, and overall measurement specifications which describe the measurement parameters of the overall end-to-end data streams.

3. (previously presented): The device as in claim 1, wherein said monitoring means includes:

an interface means for defining said overall measurement specifications which describe the measurement parameters of the overall end-to-end data streams.

4. (previously presented): The device as in claim 1, wherein said monitoring means includes:

configuration means for determining a configuration data for each measuring appliance, including determining local specifications of measurement parameters, and defining the specific measurement configuration of each measuring appliance based on the determined local measurement specifications.

5. (previously presented): The device as in claim 4, wherein said configuration means is arranged to further determine the configuration data by determining data representing a correspondence between said determined local measurement specifications and said overall measurement specifications which describe the measurement parameters of the overall end-to-end data streams.

6. (previously presented): The device as in claim 5, further including:
a first memory which stores data representing said overall measurement specifications.

7. (previously presented): The device as in claim 6, further including:
a second memory which stores data representing at least one of said local measurement specifications and said configuration data.

8. (currently amended): The device as in claim 7, wherein at least one domain includes a measuring appliance which implements the measuring process based on a measurement model of a respective domain and a behavior of various types of the local end-to-end data streams traversing the respective domain, the device further including:
a third memory which stores data representing said measurement model.

9. (previously presented): The device as in claim 8, wherein said calculation means includes:

a main calculation module which determines said first data from the local measurements delivered by said configured measuring appliances, said local measurement specifications, and at least one value aggregation model which provides a link between the first data and standard deviations associated with the local measurements.

10. (previously presented): The device as in claim 9, wherein said main calculation module is arranged to determine said first data from additional data related to a portion of the end-to-end data stream which is not subjected to the local measurements.

11. (previously presented): The device as in claim 10, wherein said additional data define an additional value aggregation model for additional values.

12. (previously presented): The device as in claim 11, wherein said second memory stores the data representing at least one of the said value aggregation model and the said additional value aggregation model.

13. (previously presented): The device as in claim 9, wherein said main calculation module is arranged to determine said first data from the local measurements delivered by the said configured measuring appliances, the local measurement specifications, at least one value aggregation model, and said measurement model.

14. (previously presented): The device as in claim 10, wherein said additional data define an additional measurement model.

15. (previously presented): The device as in claim 14, wherein said third memory stores the data representing at least one of said measurement model and the additional measurement model.

16. (previously presented): The device as in claim 4, wherein said calculation means includes an auxiliary calculation module to determine second data representing respective contributions of the coupled domains to the first data, from the local measurements delivered by said configured measuring appliances and said local measurement specifications.

17. (previously presented): The device as in claim 16, wherein said auxiliary calculation module determines the second data representing at least one of relative contributions or absolute contributions.

18. (previously presented): The device as in claim 16, further including:
a memory which stores at least one of said first or second data.

19. (canceled).

20. (previously presented): The device as in claim 16, further including:
an output interface coupled to said calculation means to deliver at least one of said first or second data at an output when so ordered.

21. (previously presented): The device as in claim 18, further including:
an output interface to extract at least one of the said first or second data from the memory at an output when ordered to do so.

22. (previously presented): The device as in claim 20, further including:
a management information database to receive at least one of the first or the second data from said output interface.

23. (previously presented): The device as in claim 1, further including:
a configuration interface which includes:

interface modules, each dedicated to a corresponding specific measuring process, coupled to said monitoring means, said measuring appliances, which execute the corresponding specific measuring process, and said calculation means and arranged to configure the corresponding measuring appliance, collect the local measurements from each corresponding measuring appliance, and supply the collected local measurements to said calculation means.

24. (previously presented): The device as in claim 23, wherein at least one of said interface modules includes:

an external measuring appliance for one of the coupled domains of said communication network.

25. (previously presented): A communication network which includes at least two domains coupled together and each including a measuring appliance to deliver corresponding local measurements representing the parameters values of the local end-to-end data streams, wherein said measuring appliances implement different measuring processes, and further including at least one managing device of claim 1.

26. (canceled).

27. (previously presented): The network as in claim 25 comprised of one of: a transmission network including at least one of a WDM, a SONET or an SDH network, a data network including at least one of an IP-Internet or an ATM, network, and a speech network including at least one of a conventional, a mobile or a NGN network.

28. (previously presented): The device as in claim 1, wherein the measuring appliances comprise:

a first measuring appliance associated with a first network domain and executing a first measuring process to collect the local measurements of a first local end-to-end data stream which traverses the first network domain;

a second measuring appliance associated with a second network domain, coupled with the first network domain, which second measuring appliance executes a second measuring process to collect the local measurements of a second local end-to-end data stream which traverses the second network domain; and

a third measuring appliance associated with a third network domain, coupled with the second network domain, which third measuring appliance executes a third measuring process to collect the local measurements of a third local end-to-end data stream which traverses the third network domain,
wherein each first, second and third measuring process differs from other measuring processes being executed and includes one of:

a passive measuring process which collects information of each type of a data stream and of each packet of the data stream,

an active measuring process which collects information on a periodic basis, or

a measuring process based on a measurement model generated in advance for a corresponding network domain.

29. (previously presented): A multi-domain management device, comprising:

a monitoring module to generate and initiate a measurement configuration for measuring appliances executing various measuring processes and being associated with corresponding domains of a network, which domains are coupled to one another and facilitate a passage for an overall end-to-end data streams, as a function of at least a corresponding measuring process of the measuring appliance and overall measurement specifications of the network;

configuration modules, each coupled to the measuring appliances executing an alike measuring process, to configure each measuring appliance based on the generated measurement configuration so that the configured measuring appliances deliver local measurements

representing parameter values of corresponding local end-to-end data streams, which each traverses the associated network domain, based on the corresponding measuring processes; and calculation means, coupled to the configuration modules, for determining data representative of parameters values of the overall end-to-end data streams based the delivered local measurements of the local end-to-end data streams.